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TITLE: SEMICONDUCTOR DEVICE

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INVENTOR-INFORMATION:

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ABSTRACT:

PURPOSE: To eliminate a mismatch state of a coefficient of thermal expansion during a bonding process, to prevent an external force such as a bending stress or the like exerted on a substrate from being conducted to a semiconductor device and to reduce the generation of heat due to high integration by a method wherein an adhesive agent with flexibility is used as the adhesive agent to bond the semiconductor device to the substrate, a bonding part is bonded to a region

of the substrate where through holes are made at appropriate intervals and a metal film is formed on inner faces of the through holes and on the rear of the substrate.

CONSTITUTION: An adhesive agent 8 is not brought into contact with the surface of an insulating substrate 2 at through holes 21 ; it has the free surface and is soft and flexible. Thanks to these properties, when the insulating substrate 2 is curved upward, the free surface of the adhesive agent 8 is shifted upward and downward at the through holes 21. When the insulating substrate 21 is cooled, it is displaced at its external circumference. This displacement value δs is larger than a displacement value (δp) at an external circumference of a semiconductor device 1; the free surface of the adhesive agent 8 is shifted at the through holes 21; the displacement value δs-δp at the external circumference can be absorbed at a mounting part of the semiconductor device where the through holes 21 are formed; the heat generated from the semiconductor device 1 can be dissipated satisfactorily from the rear of the insulating substrate 2 via metal films 23', 22, 23".

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